IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant(s) :	Thomas GRAFENAUER	Group Art Unit: 1794
Appln. No. :	10/697,560	Examiner: L. D. Ferguson
Filed :	October 31, 2003	Confirmation No.: 8411
For :	PANEL AND PROCESS FOR PRODUCING A PANEL	

APPEAL BRIEF UNDER 37 C.F.R. §41.37

Commissioner for Patents
United States Patent and Trademark Office
Customer Service Window, Mail Stop Appeal Brief-Patents
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

This appeal is from the Examiner's rejection of claims 1-9 and 16-21 as set forth in the Final Office Action dated July 1, 2008. A Notice of Appeal was timely submitted with appropriate fee payments on August 13, 2008. Accordingly, this Appeal Brief is being timely submitted by the initial due date of October 13, 2008 (i.e., two months from the filing of the Notice of Appeal). Payment of the requisite fee under 37 C.F.R. §41.20(b)(2) is submitted herewith.

No additional fee is believed to be required for filing the instant Appeal Brief. However, if for any reason the necessary fee is not associated with this file, the undersigned authorizes the charging of any filing fees for the Appeal Brief and/or any necessary extension of time fees to Deposit Account No. 19 - 0089.

(I) REAL PARTY IN INTEREST

The real party in interest is Kronotec AG, as assignee of the entire interest in the above-identified application by virtue of a conveyance recorded in the U.S. Patent and Trademark Office on February 9, 2004, at Reel 014966 and Frame 0242.

(II) RELATED APPEALS AND INTERFERENCES

The Appellants, their legal representatives and the Assignees are not currently aware of any appeals, interferences, or judicial proceedings that may directly affect or be directly affected by or have some bearing on the Board's decision in this appeal. Attached hereto is a Related Proceedings Appendix showing no related appeals or interferences.

(III) STATUS OF THE CLAIMS

In the Final Office Action dated July 1, 2008, claims 1-9 and 11-22 are pending. Claims 1-9 and 16-21 are rejected. Claim 10 is canceled. Claims 11-15 and 22 are withdrawn from consideration. Accordingly, claims 1-9 and 16-21 are being appealed and are listed in the "Claims Appendix" attached herewith.

(IV) STATUS OF THE AMENDMENTS

All amendments have been entered. Accordingly, claims 1-9 and 16-21 as presented in the Request for Reconsideration Under 37 C.F.R. 1.111 filed on March 12, 2008, are being appealed, and are listed in the "Claims Appendix" attached herewith.

(V) SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent Claim 1

By way of non-limiting example, the invention provides for a panel having a support board 1 made of glued and compressed woodbased material (FIG. 1; page 6, lines 1-4). A termination layer 10 is applied in each case on a top side 15 and an underside 5 of the support

board 1 (FIG. 1; page 5, lines 25-34). The termination layer 10 of the top side 15 has a structured surface (FIG. 1; page 6, lines 36-39; page 7, lines1-5). Moreover, the density on the top side 15 of the support board 1 is lower than the density of the support board 1 on the underside 5 (FIG. 2; page 2, lines 1-9; page 4, lines 21-25; page 6, lines 10-21).

Dependent Claim 4

In a specific embodiment of the invention, UF resins or MUF resins are used as a means for gluing fibers of the support board. To the extent that this recitation is construed as a means-plus-function recitation under 35 U.S.C. 112, sixth paragraph, Appellants submit that the structure/material/acts corresponding to the claimed function is urea-formaldehyde resins or melamin-enhanced urea-formaldehyde resins (see, e.g., page 2, lines 24-30; page 3, lines 1-5).

Dependent Claim 5

In a specific embodiment of the invention, isocyanates are used as a means for gluing woodbased materials of the support board. To the extent that this recitation is construed as a means-plus-function recitation under 35 U.S.C. 112, sixth paragraph, Appellants submit that the structure/material/acts corresponding to the claimed function is isocyanates (see, e.g., page 2, lines 24-30; page 3, lines 1-5).

Dependent Claim 7

A specific embodiment of the invention comprises a mixture of isocyanates and UF or MUF resins as a means for gluing woodbased materials of the support board. To the extent that this recitation is construed as a means-plus-function recitation under 35 U.S.C. 112, sixth paragraph, Appellants submit that the structure/material/acts corresponding to the claimed function is urea-formaldehyde resins, melamin-enhanced urea-formaldehyde resins, and isocyanates (see, e.g., page 2, lines 24-30; page 3, lines 1-5).

Independent Claim 6

By way of non-limiting example, the invention provides for a panel having a support board 1 made of glued and compressed woodbased material (FIG. 1; page 6, lines 1-4). A termination layer 10 is applied in each case on a top side 15 and an underside 5 of the support board 1 (FIG. 1; page 5, lines 25-34). The termination layer 10 of the top side 15 has a structured surface (FIG. 1; page 6, lines 36-39; page 7, lines1-5). Moreover, the density on the top side 15 of the support board 1 is lower than the density of the support board 1 on the underside 5 (FIG. 2; page 2, lines 1-9; page 4, lines 21-25; page 6, lines 10-21).

Isocyanates are used as a means for gluing woodbased materials of the support board 1, with a gluing factor of less than 20% for isocyanates (see, e.g., page 2, lines 24-30; page 3, lines 1-5). To the extent that this recitation is construed as a means-plus-function recitation under 35 U.S.C. 112, sixth paragraph, Appellants submit that the structure/material/acts corresponding to the claimed function is isocyanates (see, e.g., page 2, lines 24-30; page 3, lines 1-5).

Independent Claim 16

By way of non-limiting example, the invention provides for a panel comprising a support board 1 composed of glued, compressed woodbased material (FIG. 1; page 6, lines 1-4). The support board 1 has a top side 15 and an underside 5, with a first termination layer 10 being provided on the top side 15 and a second termination layer 10 being provided on the underside 5 (FIG. 1; page 5, lines 25-34). The density of the support board 1 continuously decreases from the top side 15 to a substantial midpoint "M" of the support board 1, and continuously decreases from the underside 5 to the substantial midpoint "M" (FIG. 2; page 2, lines 1-9; page 4, lines 21-25; page 6, lines 10-21).

(VI) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(A) Claims 1-3, 8-9, 16-19, and 20-21 are rejected under 35 U.S.C. §103(a) for being unpatentable over U.S. Patent No. 6,006,486 issued to Moriau et al. ("Moriau").

(B) Claims 4-7 are rejected under 35 U.S.C. §103(a) for being unpatentable over Moriau in view of U.S. Patent No. 5,855,832 issued to Clausi et al. ("Clausi").

(VII) ARGUMENTS

(A) Claims 1-3, 8-9, 16-19, and 20-21 are rejected under 35 U.S.C. §103(a) for being unpatentable over U.S. Patent No. 6,006,486 issued to Moriau et al. ("Moriau").

Independent Claim 1

The rejection of claim 1 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject this claim should be reversed.

To establish a *prima face* case of obviousness, all claim limitations must be taught or suggested by the prior art. *See, In re Royka*, 490 F.2d 981, 985, 180 USPQ 580, 583 (CCPA 1974); *see also, In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). If the prior art reference(s) do not teach or suggest all of the claim limitations, Office personnel must explain why the differences between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art (MPEP 2141). Appellants submit that no proper combination of the applied art teaches or suggests each and every feature of the claimed invention.

The present invention relates to a panel that is usable in laminate flooring. More specifically, independent claim 1 recites:

> 1. A panel having a support board made of glued and compressed woodbased material to which a termination layer is applied in each case on a top

> side and an underside, and the termination layer of the top side has a structured surface, wherein the density on the top side of the support board is lower than the density of the support board on the underside.

The Examiner asserts that Moriau discloses a panel having a decorative top layer and a backing layer at lines 5-6 and 66-67 of column 1, lines 26-38 of column 3, lines 1-11 of column 9, and FIGS. 2-11. The Examiner states that the decorative top layer is interpreted as having a structured surface (Final Office Action, page 2). Furthermore, the Examiner states:

> Because [Moriaus's] compressed material is made of medium density fiberboard and made of glued and compressed woodbased material, it is expected for the density of the top side of the support board to be lower than the density of the underside of the support board ... absent any evidence to the contrary.
>
> (Final Office Action, pages 2-3).

Appellants disagree that the claimed invention is rendered unpatentable in view of Moriau. More specifically, Appellants submit that the rejection is improper for the following reasons: (i) Moriau does not disclose or suggest *the termination layer of the top side has a structured surface*; (ii) Moriau does not disclose or suggest *the density on the top side of the support board is lower than the density of the support board on the underside*; and (iii) the Examiner has failed to establish a *prima facie* case of obviousness.

> *(i) Moriau does not disclose or suggest the termination layer of the top side has a structured surface.*

Contrary to the Examiner's assertion, Moriau does not disclose or suggest a panel having a support board made of glued and compressed woodbased material to which a termination layer is applied in each case on a top side and an underside, where the termination layer of the top side has a structured surface. Instead, Moriau discloses a conventional floor panel having core 8 made of MDF or HDF. A decorative layer 55 is applied to the top side of the core 8, and a protective layer 56 is applied over the decorative layer. As is common in the art, the decorative

layer 55 is a resin-impregnated paper layer with a pattern printed on the paper to resemble, for example, wood grain. Also, the protective layer 56 is a layer of transparent resin.

However, neither decorative layer 55 nor protective layer 56 has a structured surface, as recited in claim 1. There is no indication in Moriau that either layer 55 or 56 has a structured surface. Instead, in all of Moriau's drawings, layer 56 is shown as smooth. In contrast to Moriau, embodiments of Appellants' invention comprise a termination layer having a structured surface. An exemplary embodiment of the structured surface is shown in Appellants' FIG. 1, reproduced below.

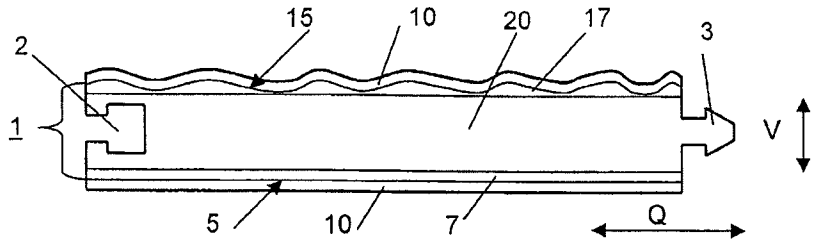


Fig. 1

As can be seen from Appellants' FIG. 1, embodiments of the invention include an upper termination layer having depressions formed therein. Such depressions result in a surface in which some portions are relatively low and other portions are relatively high. As such, the termination layer is said to have a structured surface. As explained in Appellants' specification, the structure may be provided by a stamping operation or by a grinding-off operation (Appellants' specification, page 5, lines 13-15). Moriau, on the other hand, does not teach or suggest such a structured surface, but rather only shows a smooth top layer 56.

In the Response to Arguments section of the Final Office Action, the Examiner explains that the phrase "structured surface" has been given the broadest reasonable interpretation to include flat, wavy, printed, decorative, smooth or rough surfaces (Final Office Action, page 5).

The Examiner concludes that Moriau's panel meets this interpretation. Appellants disagree for the following reasons.

First, the Examiner provides no factual support for the asserted definition of "structured surface." According to MPEP 2142, the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. However, in this case, the Examiner provides no factual support for the applied interpretation of the recited phrase "structured surface." Instead, the Examiner appears to have crafted the interpretation around Appellants' invention in an attempt to fit the prior art to the claimed invention.

Furthermore, during patent examination, the pending claims must be given their broadest reasonable interpretation consistent with the specification (MPEP 2111). Here, the Examiner purports to be applying a broadest reasonable interpretation. However, the Examiner's interpretation is not consistent with Appellants' specification. As already discussed above, the structured surface is described and shown in Appellants' specification. Moriau's panel does not have a top side comprising a structured surface as recited and disclosed in the instant invention. Therefore, Moriau does not disclose or suggest *the termination layer of the top side has a structured surface*, as recited in claim 1.

(ii) Moriau does not disclose or suggest the density on the top side of the support board is lower than the density of the support board on the underside.

In embodiments of the invention, the support board has an asymmetric density profile throughout it's cross section. This results in the density of the top side of the support board being lower than the density at the underside of the support board. An exemplary density distribution of the inventive support board is shown in FIG. 2, reproduced below with annotations.

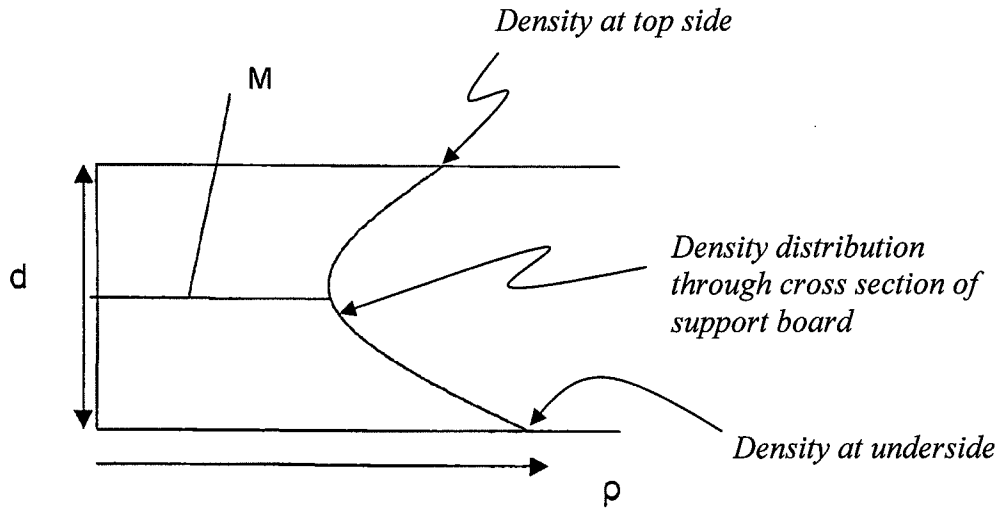


Fig. 2

Contrary to the Examiner's asserted expectation, Moriau does not disclose or suggest a panel having a support board in which *the density on the top side of the support board is lower than the density of the support board on the underside*, as recited in claim 1. Instead, Moriau is totally silent about the density of the core 8. Moriau only discloses that the core 8 is made of HDF or MDF, but that is all. Moriau makes no mention whatsoever of an asymmetric density profile, such as that employed in embodiments of Appellants' invention.

Put another way, Moriau provides no description regarding the relative densities of portions of the core 8. Instead, Moriau only generally discloses that the core 8 is composed of MDF or HDF, without any description of density. However, without any additional description regarding the core 8, it is impossible to glean from Moriau that the density at the top side of the core 8 is lower than the density at the underside of the core 8. Therefore, Moriau does not disclose or suggest a panel having a support board in which the density on the top side of the support board is lower than the density of the support board on the underside, as recited in claim 1.

In the Response to Arguments section of the Final Office Action, the Examiner explains that:

> Because the compressed material is made of medium density fiberboard, which is similar to the materials used by Applicant (paragraph 0003) and made of glued and compressed woodbased material, it is expected for the density of the top side of the support board to be lower than the density of the underside of the support board. (Final Office Action, page 6).

Appellants disagree with this conclusion of what is taught by Moriau. The Examiner freely admits that Moriau does not disclose or suggest the recited densities at the top side and underside of the board. Nevertheless, the Examiner concludes that since Moriau's panel and Appellants' panel are made of similar material, then it is "expected" that both panels will have identical density distributions.

Rejections based on §103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The Office may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. *See, In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968).

In this case, the Examiner fails to provide any factual basis to support the assertion that Moriau's panel is expected to have the same density as the claimed panel. Instead, the Examiner merely speculates that the densities at the top side and the underside of the Moriau panel are expected to be the same as the claimed panel based upon similar materials of manufacture. However, this explanation is mere speculation and assumption on the part of the Examiner, and is not supported by any evidence on the record.

Contrary to the Examiner's unsupported implication, Appellants submit that the density distribution of a manufactured board depends on more than just the materials used to manufacture the board. For example, according to aspects of the invention, the processing parameters by which the board is manufactured may be used to influence the density distribution of the support board to achieve desired characteristics of the floor panel. More specifically, Appellants' explain in the specification:

> The single-sided reduction in the bulk density of the support board on the top side during the production process takes place either by virtue of the cover layer of the top side being ground off or by the single-sided application of good heat conductors, such as water, on the underside prior to the woodbased material being heated and compressed during the production of the support board. The supply of the heat-conducting media, for example by spraying the woodbased materials designed, for example as a fiber mat, results in the heat penetrating more quickly into the fiber mat. The adhesives are thus activated more quickly and enhanced compression takes place on one side of the fiber mat. On the opposite side, the degree of compression is correspondingly lower, with the result that this side can be used for easier surface stamping. This process maintains the fiber structure while, at the same time, having different densities on the top side and underside, which has an advantageous effect on the strength of the support board and of the panel.

(Appellants' specification, pages 4-5).

> As an alternative to spraying the fiber mat with water, it is also possible for other heat-conducting media to be introduced specifically into the fibers, or applied to the fibers, in order to achieve an asymmetrical density distribution over the thickness of the support board. Liquids other than water may be used. It is likewise possible for an appropriate distribution of the woodbased materials or fibers to result in the mat which is to be pressed being such that the support board has an asymmetrical density distribution, for example by the top cover layer consisting of [sic] a material which cannot be compressed to such a high extent.

(Appellants' specification, page 7).

Thus, contrary to the Examiner's assertions, Moriau's board would <u>not</u> be expected to have the same densities as Appellants' board based solely upon the use of similar materials. In fact, much has to do with the manufacturing processes, which are very unique in the present invention. Moriau simply does not teach or suggest a similar process that would result in the

same density distribution as the claimed invention. As such, Moriau's mere use of MDF or HDF in and of itself would not expectedly or predictably result in the density distribution of the claimed invention. In fact, and in contrast to the claimed invention, one of ordinary skill in the art would expect a uniform density distribution in methods of manufacturing MDF/HDF boards.

To the extent that the Examiner might be basing the rejection on a determination of inherency (i.e., that the claimed density features are inherently present in Moriau), Appellants submit that the Examiner's explanation is inadequate to support a finding of inherency. MPEP §2112 provides the following guidance regarding rejections based upon inherency:

> The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). [emphasis added].
>
> ...
>
> "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy,* 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)

Appellants respectfully submit that the Examiner's explanation regarding similar materials does not provide a sufficient basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Particularly, the Examiner has failed to establish how, based on the materials used, it is inherent that Moriau's core 8 would have a lower density at its top side than at its underside.

In any event, Appellants note that rejections based on §103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The Office may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. *See, In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968). In this case, the Examiner is speculating as to what the density distribution of the Moriau panel might be. Moreover, because the Examiner has not identified the recited density distribution in any applied prior art document, it appears that the Examiner is using information gleaned from Appellants' disclosure to formulate the rejection. Thus, the Examiner is impermissibly resorting to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection.

For all of the above-noted reasons, Appellants submit that Moriau does not disclose or suggest a panel having a support board in which *the density on the top side of the support board is lower than the density of the support board on the underside*, as recited in claim 1. Moreover, Appellants submit that the Examiner has committed clear error by failing to factually support the rejection.

(iii) The Examiner has failed to establish a prima facie case of obviousness.

Appellants further submit that the rejection is improper and should be reversed because the Examiner has failed to properly establish a *prima facie* case of obviousness. As already discussed herein, it is well established that the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. Moreover, if the examiner does not produce a *prima facie* case, the Appellant is under no obligation to submit evidence of nonobviousness (see, e.g., MPEP §2142).

In the instant rejection, the Examiner turns the concept of a *prima facie* case of obviousness on its head. Instead of identifying the claimed features in a prior art reference, the Examiner asserts that the features are "expected [to be present] ... absent any evidence to the contrary" (Final Office Action, page 3). Put another way, the Examiner failed to perform either fact-finding function of (i) identifying the claimed features in the applied art, or (ii) explaining why the differences between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art. However, as mandated by the Supreme Court and subsequently adopted in MPEP 2141.02, this type of conclsuory rejection is improper:

> The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at ___ , 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).

In the instant rejection, the Examiner fails to provide any articulated reasoning with rational underpinning to support the legal conclusion of obviousness. Instead, the Examiner merely concludes, without any factual basis whatsoever, that the features of the claimed invention are "expected [to be present in Moriau] ... absent any evidence to the contrary." The Examiner apparently believes that Appellants are required to provide evidence to prove what is not disclosed by Moriau. This is clearly improper in light of the *KSR* holding and the above noted passages of the MPEP. Therefore, the rejection is improper and should be reversed.

For the above-noted reasons, Appellants submit that Moriau does not render obvious the combination of features recited in independent claim 1, and that the Examiner has committed clear error by rejecting claim 1 under §103. Accordingly, Appellants respectfully request that

the Board reverse the rejection of claim 1 and return the application to the Examining Group for allowance.

Claim 2

The rejection of claim 2 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject this claim should be reversed.

Claim 2 depends from independent claim 1, and additionally recites *the support board has a density of less than 700 kg/m^3*. The Examiner asserts that density is an optimizable feature, and that "in the absence of any evidence to the contrary it would have been obvious to one of ordinary skill in the art to optimize layers of a panel because discovering the optimum or workable range involves only routine skill in the art" (Final Office Action, page 3). Appellants disagree.

Appellants submit that Moriau does not disclose or suggest that core 8 has a density of less than 700 kg/m^3. In fact, Moriau is completely silent with respect to this parameter, and does not even discuss density. Nor has the Examiner identified anything in Moriau that arguably teaches the recited density. Instead, the Examiner merely asserts that the claimed density would have been obvious through discovering an optimum or workable value.

As with independent claim 1, Appellants argue that the rejection of claim 2 is improperly conclusory. For example, the Examiner has failed to provide any reasoning regarding exactly what the scope of routine experimentation encompasses in the art of floor panels, such as that disclosed by Moriau. Moreover, the Examiner has failed to provide any reasoning that explains how, given Moriau as a starting point, the claimed density is within the scope of routine experimentation. This type of rejection is clearly improper since the Supreme Court has held that rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead,

there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. _____ (2007), quoting *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006).

Furthermore, Appellants submit that it would entail more than routine experimentation to modify Moriau to arrive at the claimed invention. As noted numerous times herein, Moriau does not even describe a density of the panel, much less that *the density on the top side of the support board is lower than the density of the support board on the underside*, as recited in claim 1. Therefore, Appellants submit that it cannot reasonably be considered routine experimentation to use the Moriau disclosure as a starting point and arrive at a panel in which *the density on the top side of the support board is lower than the density of the support board on the underside* and in which *the support board has a density of less than 700 kg/m^3*, as recited in claim 8.

In addition to the arguments set forth above, Appellants further submit that the rejection is unsustainable because the Examiner has not resolved the level of ordinary skill in the art, as required by *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), which states:

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. *Id at 17.*

As the applied reference (Moriau) fails to disclose all of the claimed features, the underpinning of the rejection rests upon what would have been obvious to one having ordinary skill in the art at the time the invention was made. However, Appellants note that the Examiner fails to resolve the level of ordinary skill in the pertinent art as set forth in MPEP 2141:

> Any obviousness rejection should include, either explicitly or implicitly in view of the prior art applied, an indication of the level of ordinary skill. A finding as to the level of ordinary skill may be used as a partial basis for a resolution of the issue of obviousness.

> The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. Factors that may be considered in determining the level of ordinary skill in the art may include: (1) "type of problems encountered in the art;" (2) "prior art solutions to those problems;" (3) "rapidity with which innovations are made;" (4) "sophistication of the technology; and" (5) "educational level of active workers in the field. In a given case, every factor may not be present, and one or more factors may predominate." *In re GPAC*, 57 F.3d 1573, 1579, 35 USPQ2d 1116, 1121 (Fed. Cir. 1995); *Custom Accessories, Inc. v. Jeffrey-Allan Industries, Inc.*, 807 F.2d 955, 962, 1 USPQ2d 1196, 1201 (Fed. Cir. 1986); *Environmental Designs, Ltd. V. Union Oil Co.*, 713 F.2d 693, 696, 218 USPQ 865, 868 (Fed. Cir. 1983).

In the instant rejection, the Examiner fails to resolve the level of ordinary skill in that art. That is, the Examiner does not explicitly or implicitly provide an indication of what is considered as the level of ordinary skill in the art. For example, the Examiner does not address any one of the factors discussed in the above-noted passages of MPEP 2141. Instead, the Examiner merely contends that density is an optimizable feature, and that the invention is therefore obvious based upon discovering an optimum value of a results effective variable.

Appellants respectfully disagree and submit that, without first resolving the ordinary level of skill in the pertinent art, one cannot objectively conclude that it would have been obvious to modify Moriau as asserted by the Examiner. Put another way, without ascertaining the ordinary level of skill in the art, it cannot objectively be said that it would have been obvious to modify Morriau's core 8 to have a density of less than 700 kg/m^3. For example, there is no evidence in the record that Appellants' claimed density is even within the technical grasp of a person having ordinary skill in the art at the time the invention was made.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 2 and return the application to the Examining Group for allowance.

Claim 3

The rejection of claim 3 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject this claim should be reversed.

Claim 3 depends from independent claim 1, and additionally recites *a gluing factor of the support board is greater than 10%.* As with claim 2, the Examiner acknowledges that Moriau does not disclose or suggest this feature, but asserts that gluing factor is an optimizable feature, and that "in the absence of any evidence to the contrary it would have been obvious to one of ordinary skill in the art to optimize layers of a panel because discovering the optimum or workable range involves only routine skill in the art" (Final Office Action, page 3). Appellants disagree and incorporate by reference the arguments set forth *supra* with respect to claim 2.

More specifically, Appellants note that Moriau makes no mention whatsoever of gluing factor, much less that a gluing factor of the board is greater than 10%. Furthermore, the Examiner does not identify any prior art reference that does teach a gluing factor of greater than 10%. Even further, the rejection is improperly conclusory in that the Examiner has failed to provide any articulated reasoning with rational underpinning to support the legal conclusion of obviousness.

Additionally, the rejection is improper because the Examiner has failed to resolve the level of ordinary skill in the art. Without first resolving the ordinary level of skill in the pertinent art, one cannot objectively conclude that it would have been obvious to modify Morriau's core 8 to have a gluing factor of greater than 10%. For example, there is no evidence in the record that Appellants' claimed gluing factor is even within the technical grasp of a person having ordinary skill in the art at the time the invention was made.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 3 and return the application to the Examining Group for allowance.

Claim 8

The rejection of claim 8 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject this claim should be reversed.

Claim 8 depends from independent claim 1, and additionally recites *the support board has a non-uniform density distribution over its cross section from the top side to the underside.* The Examiner groups claim 8 with the rejection of claim 1. More specifically, the Examiner admits that Moriau does not disclose or suggest a support board having a non-uniform density distribution over its cross section from the top side to the underside. The Examiner asserts that:

> Because [Moriaus's] compressed material is made of medium density fiberboard and made of glued and compressed woodbased material, it is expected for the density of the top side of the support board to be lower than the density of the underside of the support board, for the support board to have a non-uniform density distribution over its cross section from the top side to the underside ... absent any evidence to the contrary.
>
> (Final Office Action, pages 2-3).

Appellants disagree with the conclusion of obviousness, and incorporate by reference the arguments set forth above with respect to claim 1. More specifically, Appellants note that Moriau does not disclose or reasonably suggest the claimed feature (i.e., *the support board has a non-uniform density distribution over its cross section from the top side to the underside*). The Examiner acknowledges this omission in Moriau, yet asserts that the non-uniform density distribution through Moriau's support board is expected absent evidence to the contrary.

However, the Examiner fails to provide any factual evidence to support the assertion regarding the expected density distribution in Moriau. Instead, the Examiner merely speculates as to what might be present in Moriau. This is clearly improper since rejections based on §103

must rest on a factual basis, and the Office may not resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection.

Put another way, there is nothing in the record, other than Appellants own disclosure, to suggest a support board in which *the density on the top side of the support board is lower than the density of the support board on the underside, and the support board has a non-uniform density distribution over its cross section from the top side to the underside*, as recited in claim 8. In this case, the Examiner is clearly picking features from Appellants' disclosure and asserting that these features are expected to be present in Moriau, even though the Exmainer provides no factual basis to support these assertions. Thus, the Examiner has committed clear error by resorting to speculation, unfounded assumption, and/or hindsight reconstruction to supply deficiencies in the factual basis for the rejection.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 8 and return the application to the Examining Group for allowance.

Claim 9

The rejection of claim 9 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject this claim should be reversed.

Claim 9 depends from claim 8, and additionally recites *a density of 1000 kg/m^3 is present on the underside of the support board, while a density of from 400 kg/m^3 to 600 kg/m^3 is present in the center of the support board.* The Examiner groups claim 9 with the rejection of claims 1-3, 8-9, 16-19, and 20-21 (Final Office Action, page 2). Notwithstanding, Appellants submit that: (i) the Examiner has failed to establish a *prima facie* case of obviousness with respect to claim 9 because the rejection does not address this claim feature, and (ii) the applied art (i.e., Moriau) does not disclose or suggest the features recited in claim 9.

Initially Appellants submit that the rejection is improper and should be withdrawn because the Examiner fails to even address the features of claim 9 in the explanation of the rejection. This makes the rejection fatally defective on its face, since MPEP §2143.03 mandates:

> All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Moreover, 37 C.F.R. §1.104 requires:

> The examination shall be complete with respect both to compliance of the application or patent under reexamination with the applicable statutes and rules and to the patentability of the invention as claimed … .

Moreover, MPEP §707.07(d), states:

> A plurality of claims should never be grouped together in a common rejection, unless that rejection is equally applicable to all claims in the group.

In this case, the Examiner has grouped claim 9 together with the rejection of claims 21-3, 8-9, 16-19, and 20-21, without actually addressing the language of claim 9. In doing so, the Examiner has committed clear error by failing to consider and address the features of claim 9.

Second, and in any event, Appellants submit that the applied art does not disclose or suggest all of the features recited in claim 9. That is to say, Moriau does not disclose or suggest *a panel having a support board in which a density of 1000 kg/m^3 is present on the underside of the support board, while a density of from 400 kg/m^3 to 600 kg/m^3 is present in the center of the support board.* Nor has the Examiner identified any such features in Moriau. Nor has the Examiner explained (using factual support and articulated reasoning with rational underpinning to support the legal conclusion of obviousness) why the differences between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 9 and return the application to the Examining Group for allowance.

Independent Claim 16 and claim 18

The rejection of claims 16 and 18 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject these claims should be reversed.

Independent claim 16 recites:

> 16. A panel, comprising:
> a support board composed of glued, compressed woodbased material, having a top side and an underside;
> a first termination layer provided on the top side;
> a second termination layer provided on the underside,
> wherein the density of the support board continuously decreases from the top side to a substantial midpoint of the support board, and continuously decreases from the underside to the substantial midpoint.

Claims 18 depends from claim 16. Regarding claim 16, the Examiner does not identify any disclosure by Moriau of the density of core 8, and fails to suggest any modification of Moriau, but rather merely states that "it is expected ... for the density of the core to decrease from the top side and decrease from the underside to a substantial midpoint" (Final Office Action, page 2-3). The Examiner further explains in the Response to Arguments that:

> Because the compressed material is made of medium density fiberboard and made of glued and compressed woodbased material, it is expected for the density of the core to decrease from the top side and decrease from the underside to a substantial midpoint, as in claim 16. (Final Office Action, pages 6-7).

Appellants disagree with the conclusion of obviousness, and initially note that the applied art does not disclose or suggest the combination of features recited in claim 16. Particularly, and as admitted by the Examiner, Moriau does not disclose or suggest *the density of the support board continuously decreases from the top side to a substantial midpoint of the support board, and continuously decreases from the underside to the substantial midpoint.* Therefore, the applied art fails to disclose or suggest all of the features of the claimed invention.

Additionally, Appellants incorporate by reference the arguments set forth above with respect to claim 1. More specifically, Appellants note that the Examiner openly admits that Moriau does not disclose the feature at issue, yet, nevertheless, contends that such a density distribution is expected to be present in Moriau's support board absent evidence to the contrary.

However, the Examiner fails to provide any factual evidence to support the assertion regarding the expected density distribution in Moriau. Instead, the Examiner merely speculates as to what might be present in Moriau. This is clearly improper since rejections based on §103 must rest on a factual basis, and the Office may not resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection.

More specifically, there is nothing on the record, other than Appellants' own disclosure, to suggest a support board in which *the density of the support board continuously decreases from the top side to a substantial midpoint of the support board, and continuously decreases from the underside to the substantial midpoint*, as recited in claim 16. Instead, the Examiner appears to be selecting features from Appellants' disclosure and asserting that these features are "expected to be" present in Moriau, even though the Examiner provides no factual basis to support these assertions. In doing so, not only has the Examiner turned the concept of a *prima facie* case of obviousness on its head, but the Examiner has also committed clear error by resorting to speculation, unfounded assumption, and/or hindsight reconstruction to supply deficiencies in the factual basis for the rejection of claim 16.

In any event, Appellants submit that the recited density distribution would not be expected in the Moriau panel. As discussed *supra*, Appellants' novel manufacturing method provides the novel density distribution in the claimed panel. Moriau does not disclose or even contemplate anything similar to Appellants' disclosed manufacturing process. Therefore, the

Moriau panel would only be expected to have a uniform density distribution, and would not be expected to have the recited density distribution.

For the reasons discussed above, Appellants submit that the applied art does not disclose all of the features of claim 16. Moreover, the Examiner has failed to explain, using the requisite factual basis and articulated reasoning, why the differences between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art. Therefore, the Examiner has committed clear error by rejecting claim 16 under §103. As claims 18 depends from claim 16, the Examiner has erred in rejecting this claim, too.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claims 16 and 18, and return the application to the Examining Group for allowance.

Claim 17

The rejection of claim 17 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject this claim should be reversed.

Claim 17 depends from claim 16, and additionally recites *the density at the top side is less than the density at the underside*. The Examiner groups claim 17 with the rejection of claims 1-3, 8-9, 16-19, and 20-21 (Final Office Action, page 2). Appellants disagree with the conclusion of obviousness.

As discussed above with respect to claim 1, Appellants submit that Moriau does not disclose or suggest a support board in which *the density at the top side is less than the density at the underside*. Moreover, for reasons already set forth herein, Appellants disagree with the Examiner's unfounded and speculative assertion that such densities are present in Moriau. Instead, Moriau is completely silent as to density at the top side and underside of core 8, and the Examiner has not provided any factual basis and articulated reasoning to support the contention

that one would expect the density at the top side of Moriau's panel to be is less than the density at the underside. In fact, one of ordinary skill in the art would expect the Moriau panel to have a uniform density distribution.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 17 and return the application to the Examining Group for allowance.

Claim 19

The rejection of claim 19 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject this claim should be reversed.

Claim 19 depends from claim 16, and additionally recites *the first termination layer comprises a structure composed of a stamping*. The Examiner treats claim 19 as a product by process claim (Final Office Action, page 3).

Appellants disagree with the conclusion of obviousness, and submit that Moriau does not disclose or suggest a support board having a termination layer on the top side wherein the termination layer comprises a structure. Regardless of whether or not the Examiner gives patentable weight to the phrase "composed of a stamping," Appellants nevertheless submit that Moriau does not disclose a structure at the top side of the panel. Instead, Moriau discloses a smooth surface at the top side of the panel. As discussed with respect to claim 1, this smooth surface does not constitute a structure, and the Examiner's interpretation of the recitation of a "structure" is not consistent with the specification. Therefore, the applied art fails to disclose or suggest all of the features recited in claim 19.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 19 and return the application to the Examining Group for allowance.

Claim 20

The rejection of claim 20 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject this claim should be reversed.

Claim 20 depends from claim 16, and additionally recites *a density distribution through a thickness of the support board is substantially parabolic in shape*. The Examiner groups claim 20 with the rejection of claims 1, 8, and 16 (Final Office Action, pages 2-3), and asserts that it would be expected that Moriau's panel would have a density distribution that is substantially parabolic in shape.

Appellants disagree with the conclusion of obviousness, and initially note that the applied art simply does not disclose or suggest *a density distribution through a thickness of the support board is substantially parabolic in shape*, as recited in claim 20. An example of the parabolic density distribution is shown in Appellant's FIG. 2, reproduced with annotations below.

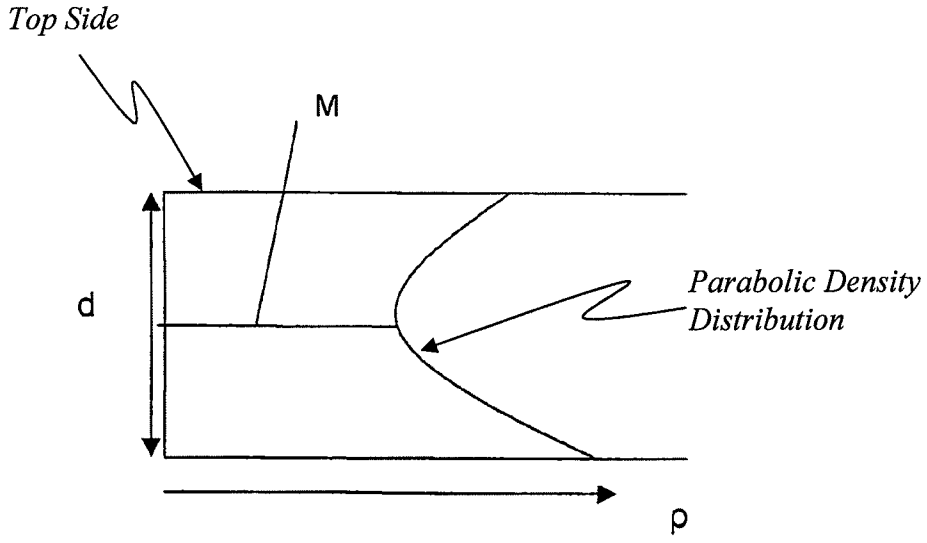


Fig. 2

As admitted by the Examiner, Moriau does not disclose or even remotely suggest a parabolic density distribution. In fact, Moriau makes no mention of density whatsoever.

Additionally, Appellants incorporate by reference the arguments set forth above with respect to claims 1 and 16. Particularly, Appellants note that the Examiner acknowledges that Moriau does not disclose a parabolic density distribution, yet contends that such a density distribution is expected to be present in Moriau's support board absent evidence to the contrary.

However, the Examiner fails to provide any factual evidence to support the assertion regarding the expected density distribution in Moriau. Instead, the Examiner merely speculates as to what might be present in Moriau. This is clearly improper since rejections based on §103 must rest on a factual basis, and the Office may not resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection.

More specifically, there is nothing on the record, other than Appellants' own disclosure, to suggest a support board in which *a density distribution through a thickness of the support board is substantially parabolic in shape*, as recited in claim 20. Instead, the Examiner is simply appropriating features from Appellants' disclosure and asserting that these features are "expected to be" present in Moriau, even though the Examiner provides no factual basis to support these assertions. In doing so, the Examiner has committed clear error by resorting to speculation, unfounded assumption, and/or hindsight reconstruction to supply deficiencies in the factual basis for the rejection.

In any event, Appellants submit that the parabolic density distribution recited in claim 20 would not be expected in the Moriau panel. This is because, as discussed *supra*, the density distribution depends on more than just the materials used in the panel. Appellants' novel manufacturing method provides the novel density distribution in the claimed panel. Moriau does not disclose or even contemplate anything similar to Appellants' disclosed manufacturing

process. Therefore, the Moriau panel would only be expected to have a uniform density distribution, and would not be expected to have the recited parabolic density distribution.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 20 and return the application to the Examining Group for allowance.

Claim 21

The rejection of claim 21 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject this claim should be reversed.

Claim 21 depends from claim 16, and additionally recites *the support board comprises cover layers and the first termination layer and second termination layer are glued to the cover layers*. The Examiner groups claim 21 with the rejection of claims 1-3, 8-9, 16-19, and 20-21, and asserts that Moriau discloses that additional layers can be applied to the floor panel, and that this teaches the cover layers recited in claim 21 (Final Office Action, page 2). Appellants disagree.

In embodiments of the invention, there is a cover layer and a first termination layer on the top side of the support board. Additionally, there is a cover layer and a second termination layer on the top side of the support board. Moriau does not disclose a cover layer and a termination layer applied to the underside of the core 8. Instead, Moriau only discloses a backing layer 58 at the underside 7 (col. 9, lines 10-15; FIG. 11).

Appellants acknowledge that Moriau discloses that other layers (e.g., intermediate layer 57) can be applied to the *upper side* of the core 8 (col. 9, lines 1-9; FIG. 11). However, this is only with respect to the *upper side* of the core 8 where the decorative layer 55 and protective top layer 56 are present, whereas Moriau makes no mention whatsoever of multiple layers on the

underside of the core 8. Furthermore, there is no reason disclosed by Moriau or identified by the Examiner to add a cover layer to the underside of Moriau's core 8.

Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 21 and return the application to the Examining Group for allowance.

(B) Claims 4-7 are rejected under 35 U.S.C. §103(a) for being unpatentable over Moriau in view of U.S. Patent No. 5,855,832 issued to Clausi et al. ("Clausi").

Independent Claim 6

The rejection of independent claim 6 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject this claim should be reversed.

Independent claim 6 recites:

> 6. A panel having a support board made of glued and compressed fiber material to which a termination layer is applied in each case on a top side and an underside, and the termination layer of the top side has a structured surface,
> wherein the density on the top side of the support board is lower than the density of the support board on the underside, and
> isocyanates are used as a means for gluing woodbased materials of the support board, and
> further comprising a gluing factor of less than 20% for isocyanates.

Appellants incorporate by reference and repeat the arguments set forth *supra* with respect to claim 1. More specifically, Appellants submit that: (i) Moriau does not disclose or suggest *the termination layer of the top side has a structured surface*; (ii) Moriau does not disclose or suggest *the density on the top side of the support board is lower than the density of the support board on the underside*; and (iii) the Examiner has failed to properly establish a *prima facie* case of obviousness. Instead, the Examiner is not interpreting the phrase "structured surface" consistent with the specification. Moreover, the Examiner's assertion that Moriau is "expected

to have" the recited features is factually unsupported and wholly conclusory. This renders the rejection unsustainable.

Moreover, as the Examiner admits, neither Moriau nor Clausi discloses or suggests *a gluing factor of less than 20% for isocyanates*. Instead, Clausi merely discloses using methane di-isocyanate as a binder for molding powdered plant fiber into high density materials. Since the applied references fail to disclose all of the claimed features, the underpinning of the rejection rests upon what would have been obvious to one having ordinary skill in the art at the time the invention was made. However, the Examiner failed to resolve the level of ordinary skill in the pertinent art. Instead, the Examiner merely contends that gluing factor is an optimizable feature, and that the invention is therefore obvious based upon discovering an optimum value of a results effective variable. However, because there is no indication that the Examiner has resolved the ordinary level of skill in the pertinent art, it cannot objectively be said that it would have been obvious to modify Moriau to include *a gluing factor of less than 20% for isocyanates*, as recited in claim 6. Therefore, the Examiner's rejection is factually unsupported and improperly conclusory.

For all of these reasons, Appellants submit that the rejection of claim 6 is improper. Accordingly, Appellants respectfully request that the Board reverse the rejection of claim 6 and return the application to the Examining Group for allowance.

Claims 4, 5, and 7

The rejection of claims 4, 5, and 7 under 35 U.S.C. §103(a) is in error, and the decision of the Examiner to reject these claims should be reversed.

Claim 4 depends from claim 1, and additionally recites *UF resins or MUF resins are used as a means for gluing fibers of the support board.* Claim 5 depends from claim 1, and

additionally recites *isocyanates are used as a means for gluing woodbased materials of the support board.* Claim 7 depends from claim 1, and additionally recites *a mixture of isocyanates and UF or MUF resins as a means for gluing woodbased materials of the support board.*

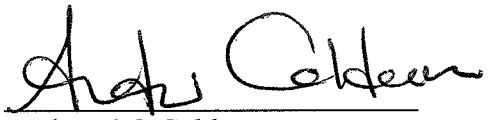
As discussed above, Moriau fails to disclose or suggest the termination layer of the top side has a structured surface, or the density on the top side of the support board is lower than the density of the support board on the underside. Clausi does not compensate for the deficiencies of Moriau with respect to claim 1. That is to say, Clausi does not disclose or suggest a termination layer applied to a top side of a support board where the termination layer has a structured surface. Moreover, Clausi does not disclose or suggest a density on the top side of the support board is lower than the density of the support board on the underside. Instead, Clauis merely discloses a method of molding powdered plant fiber into high density materials that utilizes a resin binder (e.g., methane di-isocyanate, urea formaldehyde, melamine formaldehyde, etc.).

Therefore, the applied references fail to disclose or suggest all of the features of independent claim 1, and (by definition) claims 4, 5, and 7 that depend from claim 1. Accordingly, Appellants respectfully request that the Board reverse the rejection of claims 4, 5, and 7 and return the application to the Examining Group for allowance.

Conclusion

In view of the foregoing remarks, Appellants submit that claims 1-9 and 16-21 are patentably distinct from the prior art of record and are in condition for allowance. Accordingly, Appellants respectfully request that the Board reverse the Examiner's rejection of claims 1-9 and 16-21 and remand the application to the Examiner for allowance of the pending claims.

Respectfully submitted,
Thomas GRAFENAUER



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(VIII) CLAIMS APPENDIX

The following is a listing of the claims involved in the appeal.

1. A panel having a support board made of glued and compressed woodbased material to which a termination layer is applied in each case on a top side and an underside, and the termination layer of the top side has a structured surface, wherein the density on the top side of the support board is lower than the density of the support board on the underside.

2. The panel according to Claim 1, wherein the support board has a density of less than 700 kg/m^3.

3. The panel according to Claim 1, wherein a gluing factor of the support board is greater than 10%.

4. The panel according to Claim 1, wherein UF resins or MUF resins are used as a means for gluing fibers of the support board.

5. The panel according to Claim 1, wherein isocyanates are used as a means for gluing woodbased materials of the support board.

6. A panel having a support board made of glued and compressed fiber material to which a termination layer is applied in each case on a top side and an underside, and the termination layer of the top side has a structured surface,

wherein the density on the top side of the support board is lower than the density of the support board on the underside, and

isocyanates are used as a means for gluing woodbased materials of the support board, and further comprising a gluing factor of less than 20% for isocyanates.

7. The panel according to Claim 1, further comprising a mixture of isocyanates and UF or MUF resins as a means for gluing woodbased materials of the support board.

8. The panel according to Claim 1, wherein the support board has a non-uniform density distribution over its cross section from the top side to the underside.

9. The panel according to claim 8, wherein a density of 1000 kg/m^3 is present on the underside of the support board, while a density of from 400 kg/m^3 to 600 kg/m^3 is present in the center of the support board.

16. A panel, comprising:

a support board composed of glued, compressed woodbased material, having a top side and an underside;

a first termination layer provided on the top side;

a second termination layer provided on the underside,

wherein the density of the support board continuously decreases from the top side to a substantial midpoint of the support board, and continuously decreases from the underside to the substantial midpoint.

17. The panel of claim 16, wherein the density at the top side is less than the density at the underside.

18. The panel of claim 16, wherein the first termination layer comprises a decoration.

19. The panel of claim 16, wherein the first termination layer comprises a structure composed of a stamping.

20. The panel of claim 16, wherein a density distribution through a thickness of the support board is substantially parabolic in shape.

21. The panel of claim 16, wherein the support board comprises cover layers and the first termination layer and second termination layer are glued to the cover layers.

(IX) EVIDENCE APPENDIX

NONE.

(X) RELATED PROCEEDINGS APPENDIX

NONE.